CLAIMS

1. An optical pickup lens device used in an optical pickup device which performs at least one of reading, writing, and erasing of information by converging onto an information recording medium a bundle of rays with a wavelength range of 390 nm to 420 nm emitted from a light source, to form a spot, the optical pickup lens device comprising, in an order from a side of the light source:

collimating means for converting the bundle of rays into parallel rays or predetermined convergent or divergent rays, the collimating means being movably held along a direction of an optical axis of the bundle of rays emitted from the light source;

an aberration correcting element for allowing a bundle of rays emitted from the collimating means to be transmitted therethrough; and

an objective lens element having a numerical aperture of 0.8 or more, and converging a bundle of rays coming from the aberration correcting element onto the information recording medium to form a spot, wherein

the aberration correcting element and the objective lens element are integrally held together in a direction orthogonal to the optical axis so as to perform tracking on the information recording medium, and

the optical pickup lens device satisfies the following conditions:

$-0.1 \leqq CAt \leqq 0.1$ ... (1);

$-20 \leqq CAf \leqq 20$ ... (2);

$-20 \leqq CAm \leqq 0$ ... (3);

$-0.25 \leqq \theta f \leqq 0.25$ ... (4); and

$-0.75 \leqq \theta m \leqq 0.75$ ... (5),

where

CAt: axial chromatic aberration (μm/nm) in an entire optical system,

CAf: axial chromatic aberration (μm/nm) in the collimating means,

CAm: axial chromatic aberration (μm/nm) in the aberration correcting element,

θf: amount of change in an angle of a bundle of outgoing rays from the collimating means per unit wavelength (min/nm), and

θm: amount of change in an angle of a bundle of outgoing rays from the aberration correcting element per unit wavelength (min/nm).

2. The optical pickup lens device according to claim 1, wherein the aberration correcting element is a diffractive lens provided separately from the objective lens element and having an optical power to deflect a bundle of rays by diffraction.

3. The optical pickup lens device according to claim 1, wherein the aberration correcting element is an element provided

separately from the objective lens element, and has a phase step surface including a plurality of zone regions defined by concentric circles with the optical axis being at a center; and phase steps each formed at a boundary portion between the regions.

4. An optical pickup device which performs at least one of reading, writing, and erasing of information by converging a bundle of rays onto an information recording medium to form a spot, the optical pickup device comprising:

a light source for emitting a bundle of rays with a wavelength range of 390 nm to 420 nm;

collimating means for converting the bundle of rays into parallel rays or predetermined convergent or divergent rays, the collimating means being movably held along a direction of an optical axis of the bundle of rays emitted from the light source;

an aberration correcting element for allowing a bundle of rays emitted from the collimating means to be transmitted therethrough; and

an objective lens element having a numerical aperture of 0.8 or more, and converging a bundle of rays coming from the aberration correcting element onto the information recording medium to form a spot, wherein

the aberration correcting element and the objective lens element are integrally held together in a direction orthogonal to the optical axis so as to perform tracking on the information

recording medium, and

the optical pickup device satisfies the following conditions:

$-0.1 \leqq CAt \leqq 0.1$ ... (1);

$-20 \leqq CAf \leqq 20$ ... (2);

$-20 \leqq CAm \leqq 0$ ... (3);

$-0.25 \leqq \theta f \leqq 0.25$ ... (4); and

$-0.75 \leqq \theta m \leqq 0.75$ ... (5),

where

CAt: axial chromatic aberration (μm/nm) in an entire optical system,

CAf: axial chromatic aberration (μm/nm) in the collimating means,

CAm: axial chromatic aberration (μm/nm) in the aberration correcting element,

θf: amount of change in an angle of a bundle of outgoing rays from the collimating means per unit wavelength (min/nm), and

θm: amount of change in an angle of a bundle of outgoing rays from the aberration correcting element per unit wavelength (min/nm).